What is claimed is:

1. A method of encoding a video sequence comprising a number of pictures, in which a picture of the video sequence is divided into blocks and a block of said picture is encoded using one of a number of different types of motion compensated prediction, including at least a single-picture prediction type that employs motion compensated prediction to generate predicted pixel values for the block by using an interpolation filter operating on pixel values of a single reference picture in said video sequence and a multi-picture prediction type that employs motion compensated prediction to generate predicted pixel values for the block by using an interpolation filter operating on pixel values of more than one reference picture in said video sequence, wherein ~~the~~ complexity of the interpolation filter used to generate predicted pixel values for the block is dependent upon a characteristic of the block.

2. A method according to claim 1, wherein the complexity of the interpolation filter is dependent upon the type of motion compensated prediction used in encoding the block.

3. A method according to claim 1, wherein the complexity of the interpolation filter is changed by changing the type of the filter.

4. A method according to claim 1, wherein the complexity of the interpolation filter is reduced when using said multi-picture prediction type to generate predicted pixel values for the block.

5. A method according to claim 3, wherein the complexity of the interpolation filter is reduced when using said multi-picture prediction type by using a shorter filter.

6. A method according to claim 3, wherein the complexity of the interpolation filter is reduced when using said multi-picture prediction type by using a filter having fewer coefficients.

7. A method according to claim 1, wherein the complexity of the interpolation filter is changed dependent upon the size of the block.

8. A method according to claim 1, wherein the complexity of the interpolation filter is changed dependent upon the shape of the block.

9. A method according to claim 1, wherein the interpolation filter operating on pixel values of more than one reference picture is shorter than the interpolation filter operating on pixel values of a single reference picture.

10. A method according to claim 1, wherein the interpolation filter operating on pixel values of more than one reference picture comprises a 4-tap filter and the interpolation filter operating on pixel values of a single reference picture comprises a 6-tap filter.

11. A method according to claim 1, wherein the interpolation filter operating on pixel values of more than one reference picture is dependent on a fractional pixel position in calculating a sub-pixel value.

12. A method according to claim 1, comprising defining a set of interpolation filters for use in connection with a particular prediction type.

13. A method according to claim 12, comprising providing an indication of a particular one of said set of interpolation filters to be used in motion compensated prediction of a block.

14. A coding system for coding a video sequence, the video sequence comprising a number of pictures, in which a picture of the video sequence is divided into blocks and a block of said picture is encoded using one of a number of different types of motion compensated prediction, including at least a single-picture prediction type that employs motion compensated prediction to generate predicted pixel values for the block by using an interpolation filter operating on pixel values of a single reference picture in said video

sequence and a multi-picture prediction type that employs motion compensated prediction to generate predicted pixel values for the block by using an interpolation filter operating on pixel values of more than one reference picture in said video sequence, said system comprising:

means for selecting a prediction type to be used in motion compensated prediction encoding of the block; and

means for changing the interpolation filter based on the selected prediction type.

15. A coding system according to claim 14, wherein said changing means also changes the interpolation filter based on a characteristic of the block.

16. A coding system according to claim 14, wherein said changing means also changes the interpolation filter based on the size of the block.

17. A coding system according to claim 14, wherein said changing means also changes the interpolation filter based on the shape of the block.

18. A coding system according to claim 14, wherein the interpolation filter operating on pixel values of more than one reference picture is shorter than the interpolation filter operating on pixel values of a single reference picture.

19. A coding system according to claim 14, wherein the interpolation filter operating on pixel values of more than one reference picture has fewer coefficients than the interpolation filter operating on pixel values of a single reference picture.

20. A coding system according to claim 14, wherein the interpolation filter operating on pixel values of more than one reference picture comprises a 4-tap filter and the interpolation filter operating on pixel values of a single reference picture comprises a 6-tap filter.

21. A coding system according to claim 14, wherein the interpolation filter operating on pixel values of more than one reference picture is dependent on a fractional pixel position in calculating a sub-pixel value.

22. A method of motion compensated prediction for use in a video coding system, in which system a video sequence comprising a number of pictures, in which a picture of the video sequence is divided into blocks and a block of said picture is encoded using one of a number of different types of motion compensated prediction, including at least a single-picture prediction type that employs motion compensated prediction to generate predicted pixel values for the block by using an interpolation filter operating on pixel values of a single reference picture in said video sequence and a multi-picture prediction type that employs motion compensated prediction to generate predicted pixel values for the block by using an interpolation filter operating on pixel values of more than one reference picture in said video sequence, said method comprising:

determining the types of the motion compensated prediction; and

changing the interpolation filter based on the determined types of the motion compensated prediction.

23. A method of motion compensated prediction in which an interpolation filter to be used during motion compensated prediction of a picture block is selected in dependence on the type of motion compensated prediction used.

24. A method according to claim 23, implemented in a video encoder.

25. A method according to claim 23, implemented in a video decoder.

26. A method according to claim 23, wherein if the type of motion compensation used is a multi-picture prediction type, in which a prediction for the picture block is formed using more than one reference picture, the selected interpolation filter has fewer coefficients than the interpolation filter that is selected when the type of motion

compensated prediction used is a single-picture prediction type, in which a prediction for the picture block is formed using a single reference picture.

27. A method according to claim 23, wherein the interpolation filter is selected in dependence on a characteristic of the picture block.

28. A method according to claim 23, wherein the interpolation filter is selected in dependence on the size of the picture block.

29. A method according to claim 23, wherein the interpolation filter is selected in dependence on the shape of the picture block.

30. A method according to claim 23, wherein said means for selecting an interpolation filter is operative to select an interpolation filter in dependence on the size of the picture block.

31. An apparatus for performing motion compensated prediction comprising means for selecting an interpolation filter to be used during motion compensated prediction of a picture block in dependence on the type of motion compensated prediction used.

32. An apparatus according to claim 31, implemented in a video encoder.

33. An apparatus according to claim 31, implemented in a video decoder.

34. An apparatus according to claim 31, wherein if the type of motion compensation used is a multi-picture prediction type, in which a prediction for the picture block is formed using more than one reference picture, said means for selecting an interpolation filter is operative to select an interpolation filter that has fewer coefficients than an interpolation filter that is selected when the type of motion compensated prediction used is a single-picture prediction type, in which a prediction for the picture block is formed using a single reference picture.

35. An apparatus according to claim 31, wherein said means for selecting an interpolation filter is operative to select an interpolation filter in dependence on a characteristic of a picture block.

36. An apparatus according to claim 31, wherein said means for selecting an interpolation filter is operative to select an interpolation filter in dependence on the size of the picture block.

37. A video encoder comprising an apparatus for performing motion compensated prediction, wherein said apparatus for performing motion compensated prediction comprises means for selecting an interpolation filter to be used during motion compensated prediction of a picture block in dependence on the type of motion compensated prediction used.

38. A video decoder comprising an apparatus for performing motion compensated prediction, wherein said apparatus for performing motion compensated prediction comprises means for selecting an interpolation filter to be used during motion compensated prediction of a picture block in dependence on the type of motion compensated prediction used.